

## 时钟振荡器 Clock Oscillator: KD256D

### Feature 特征

- Miniature 2.5x2.0mm package, ideal for space-constrained designs 超小型 2520 尺寸, 适合空间受限的设计
- Ultra-low phase jitter 0.2ps RMS from 12kHz to 20MHz 超低相位抖动
- LVDS differential output suitable for high-speed and low-noise applications 差分输出适合高速, 低噪声的信号传输要求
- Excellent for high-performance clocking in networking, communication, industrial, and computing systems 适用于网络通信, 工业控制



### General Specifications 规格参考

PARAMETER	性能参数	KD256D
Frequency Range	频率范围	13MHz ~ 220MHz
Supply Voltage	供给电压	+1.8V/2.5V/3.3V (±10%)
Output Logic	输出波形	LVDS
Frequency Tolerance	调整频差	±30ppm max.
Frequency Stability	温度频差	见下表
Operating Temperature Range	温度范围	见下表
Current Consumption	工作电流	68mA max.
Output Load	输出负载	100Ω between output and comp. output
Start-up Time	起振时间	10ms max.
Duty Cycle	占空比	45~55% (f≤40MHz); 40~60% (f > 40MHz)
Rise & Fall Time	上升下降时间	0.8ns max.
Output Enable/Disable Time	启动/禁用时间	Enable: 10ms max.; Disable: 0.2μs max.
Output Logic High "1"	输出电平 高	1.4V typ. 1.6V max.
Output Logic Low "0"	输出电平 低	1.1V typ. 0.9V min.
RMS Jitter	抖动	0.2ps typ. (12KHz~20MHz)
Storage Temperature Range	储存温度范围	-55°C ~ +125°C
Aging Per Year	老化率	±3ppm ~ ±5ppm/year

Frequency Stability 温度频差 VS Operating Temperature Range 温度范围

Temp. Code	Temp. \ppm	±20	±25	±30	±50	±100
B	-20~70°C	○	○	○	○	○
C	-40~85°C		○	○	○	○
E	-40~105°C				○	○
F	-55~125°C					○

NOTE: Please consult for other specifications 若有其它规格需求请告知

### Outline Dimensions (Unit: mm) 外形尺寸

**KD256D**

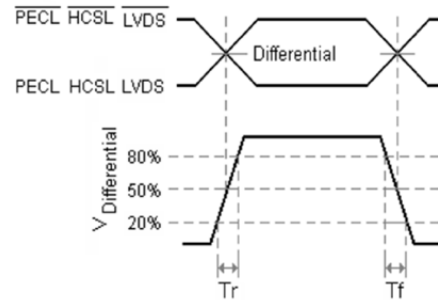
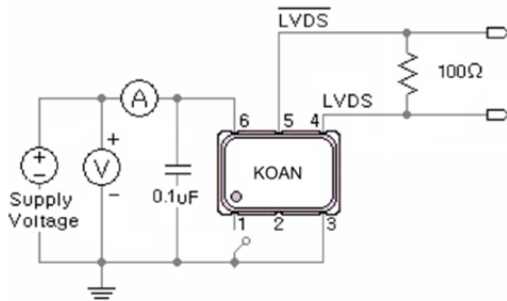
Recommended Soldering Pattern

Pin	Connection
#1	Output Enable (OE)
#2	No Connection
#3	Ground
#4	Output
#5	Complementary
#6	Supply Voltage

Enable/Disable Function	
Input (#1)	Output (#4, #5)
Open	Enable
$V_{IH} \geq 70\%V_{DD}$	Enable
$V_{IL} \leq 30\%V_{DD}$	Disable

### Test Circuit and Output Waveforms 测试电路图及输出波形



### Part Number Guide 产品编号

<b>KD256D</b>	-	<b>20.000</b>	-	<b>33</b>	-	<b>C</b>	-	<b>30</b>	-	<b>NS</b>
↓		↓		↓		↓		↓		↓
型号	-	标称频率	-	工作电压	-	工作温度	-	温度频差	-	特殊要求

‘KD’: 差分系列  
 ‘256’: 封装尺寸  
 SMD 2.5x2.0mm 6 pad  
 ‘D’: 输出波形  
 LVDS

(In MHz)

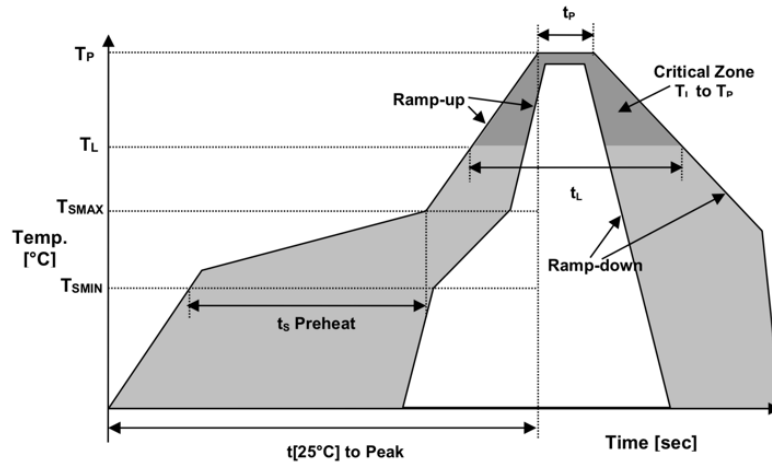
18=1.8V  
 25=2.5V  
 33=3.3V

B: -20~+70°C  
 C: -40~+85°C  
 E: -40~+105°C  
 F: -55~+125°C

10 = ±10ppm  
 20 = ±20ppm  
 30 = ±30ppm  
 50 = ±50ppm  
 100 = ±100ppm

‘NS’: 特殊要求

■ Reflow Profile 回流焊



Temperature Min Preheat	最低预热温度	$T_{smin}$	150°C
Temperature Max preheat	最高预热温度	$T_{smax}$	200°C
Time ( $T_{smin}$ to $T_{smax}$ )	时间差	$T_s$	60~120 sec
Temperature	温度	$T_L$	217°C
Peak Temperature	最高温	$T_p$	260 °C
Ramp-up Rate	升温速度	$R_{up}$	3°C/sec max
Ramp-down Rate	降温速度	$R_{down}$	6°C/sec max
Time within 5°C of Peak Temperature	最高温度停留时间	$t_p$	30 sec
Time $t[25^\circ\text{C}]$ to peak temperature	25度到最高温度时间	$t[25^\circ\text{C}]$ to peak	480 sec
Time	时间	$t_L$	60~150 sec